

### **Abstract**

A voltage regulator has a voltage regulator output (6) for providing a regulated output voltage ( $U_{out}$ ) and an internal nonreactive resistor (RZ) arranged in series with an external load (RL) to be connected to the voltage regulator output (6). An internal electrical regulation feedback path of the voltage regulator (10, 11) is tapped both at a first point (A) upstream of the internal nonreactive resistor (RZ) and at a second point (B) downstream of the internal nonreactive resistor (RZ), the second point (B) being located between the internal nonreactive resistor (RZ) and the voltage regulator output (6). For frequencies above a predetermined frequency ( $f_w$ ), the regulation is essentially effective directly via the first point (A) and not via the second point (B), while for frequencies below the predetermined frequency ( $f_w$ ), the regulation is essentially effected via the path first point (A) - internal nonreactive resistor (RZ) - second point (B).